WHAT IS CLAIMED IS:

1. A prosthetic heart valve resistant to tissue overgrowth following implantation of said prosthetic heart valve into a host, said heart valve comprising a sewing ring, and a housing component enclosing a valve component, wherein a member selected from said sewing ring, said housing component, said valve component and combinations thereof comprises at least one biologically active material in an amount sufficient to prevent tissue overgrowth.

2. The heart valve according to claim 1, wherein said sewing ring comprises said at least one biologically active material.

3. The heart valve according to claim 1, wherein said sewing ring comprises a polymeric material.

4. The heart valve according to claim 3, wherein said polymeric material comprises a member selected from plastics, rubbers and combinations thereof.

5. The heart valve according to claim 3, wherein said polymeric material is a fabric.

6. The heart valve according to claim 5, wherein said fabric comprises a material that is a member selected from thermoplastic polyurethanes TPUs, nylons, polypropylene, polytetrafluoroethylene, polyesters, nylon polymers, block copolymers of a polyether polymer and a polyester polymer, and block copolymers of a polyether polyol and one selected from the group consisting of polyamides, polyimides, polyolefins, synthetic hydrocarbon elastomers, and natural rubber.

7. The heart valve according to claim 5, wherein said polyester is polyethylene terephthalate (PET).

8. The heart valve according to claim 5, wherein said nylon is a member selected from nylon-11, nylon-12 and combinations thereof.

9. The heart valve according to claim 5 wherein said polyolefin is a member selected from polyethylenes (PE) and polypropylenes (PP).

10. The heart valve according to claim 5, wherein said fabric is a member selected from a weft knit with a velour, a weft knit without a velour, a warp knit with a velour, a warp knit without a velour, a weave structure with a velour, a weave structure without a velour and combinations thereof.

11. The heart valve according to claim 10, wherein said fabric comprises a combination yarn comprising at least two polymeric components.

12. The heart valve according to claim 11, wherein said combination yarn comprises polyester wrapped with polypropylene yarn.

13. The heart valve according to claim 1, wherein said at least one biologically active material is a member selected from antithrombotics, antiinflammatories, corticosteroids, antimicrotubule agents, antisense oligonucleotides, antineoplaastics, antioxidants, antiplatelets, calcium channel blockers, converting enzyme inhibitors, cytokine inhibitors, growth factors, growth factor inhibitors, growth factor sequestering agents, immunosuppressives, tissue factor inhibitor, smooth muscle inhibitors, organoselenium compounds, retinoic acid, retinoid compounds, sulfated proteoglycans, NO, NO precursors and combinations thereof.

14. The heart valve according to claim 13, wherein said antithrombotic is a member selected from heparin, heparin derivatives, hirudin, hirudin derivatives and combinations thereof.

15. The heart valve according to claim 13, wherein said corticosteroid is a member selected from dexamethasone, dexamethasone derivatives and combinations thereof.

16. The heart valve according to claim 13, wherein said antimicrotubule agent is a member selected from taxane, taxane derivatives and combinations thereof.

17. The heart valve according to claim 13, wherein said antiplatelet agent is an inhibitor of collagen synthesis.

18. The heart valve according to claim **17**, wherein said inhibitor of collagen synthesis is a member selected from halofuginore, halofuginore derivatives, $GpII_bIII_a$ and combinations thereof.

19. The heart valve according to claim **1**, wherein said biologically active material adheres tenaciously, without covalent bonding, to a member selected from said sewing ring, said housing component, said valve component and combinations thereof.

20. The heart valve according to claim **19**, wherein said sewing ring comprises said biologically active material.

21. The heart valve according to claim **19**, wherein said biologically active material is combined with a surfactant.

22. The heart valve according to claim **21**, wherein said surfactant is a member selected from benzalkonium halides and sterylalkonium halides.

23. The heart valve according to claim **19**, wherein said biologically active material comprises a taxane, a taxane derivative and combinations thereof.

24. The heart valve according to claim **19**, further comprising a coating layered over said biologically active material.

25. The heart valve according to claim **24**, wherein said coating is a member selected from bioerodable coatings, hydrogel coatings, thermoreversible coatings, bioresorbable coatings and combinations thereof.

26. The heart valve according to claim **1**, wherein said biologically active material is covalently bonded to a reactive group located on a member selected from said sewing ring, said housing component, said valve component and combinations thereof.

27. The heart valve according to claim **26**, wherein said biologically active material is covalently bound to said sewing ring.

28. The heart valve according to claim **26**, wherein said reactive group is selected from amine-containing groups, hydroxyl groups, carboxyl groups, carbonyl groups, and combinations thereof.

29. The heart valve according to claim **28** wherein said amine-containing groups are selected from amino groups, amido groups, urethane groups, urea groups, and combinations thereof.

30. The heart valve according to claim **29**, wherein said amino groups are selected from the group consisting of primary amino groups, secondary amino groups, and combinations thereof.

31. The heart valve according to claim **30** wherein said amino groups are derived from a nitrogen-containing gas selected from the group consisting of ammonia, organic amines, nitrous oxide, nitrogen, and combinations thereof.

32. The heart valve according to claim **31**, wherein said organic amines are selected from methylamine, dimethylamine, ethylamine, diethylamine, n-propylamine, allylamine, isopropylamine, n-butylamine, n-butylmethylamine, n-amylamine, n-hexylamine, 2-ethylhexylamine, ethylenediamine, 1,4-butanediamine, 1,6-hexanediamine, cyclohexylamine, N-methylcyclohexylamine, and ethyleneimine.

33. The heart valve according to claim **26**, wherein when said substrate is a polymer and said reactive chemical functional groups are affixed to the surface of said substrate by plasma fixation.

34. The heart valve according to claim **26**, wherein said biologically active material is a taxane, a taxane derivative and combinations thereof.

35. The heart valve according to claim **26**, further comprising a coating layered over a component that is a member selected from said sewing ring, said housing component, said valve component and combinations thereof.

36. The heart valve according to claim **35**, wherein said coating is a member selected from bioerodable coatings, hydrogel coatings, thermoreversible coatings, bioresorbable coatings and combinations thereof.

37. The heart valve according to claim 1, further comprising a microcapsule encapsulating said biologically active material, said microcapsule being incorporated into a component of said heart valve that is a member selected from said sewing ring, said housing component, said valve component and combinations thereof.

38. The heart valve according to claim 37, further comprising a coating layer.

39. The heart valve according to claim 38, wherein said coating is layered over said microcapsule.

40. The heart valve according to claim 38, wherein said microcapsule is embedded in said coating.

41. The heart valve according to claim 38, wherein said coating is a member selected from bioerodable coatings, hydrogel coatings, thermoreversible coatings, bioresorbable coatings and combinations thereof.

42. The heart valve according to claim 37, wherein said microcapsules are fabricated from a material that undergoes erosion in said host, thereby providing for controlled release of said encapsulated biologically active material from said microcapsules.

43. The heart valve according to claim 42, wherein said microcapsules comprise a sodium alginate envelope.

44. The heart valve according to claim 1, wherein a member selected from said sewing ring, said housing component, said valve component and combinations thereof is at least partially covered with a coating for release of at least one of said biologically active material, the coating comprising a reservoir component comprising said biologically active material.

45. The heart valve according to claim 44, wherein said coating comprises a member selected from gels, foams, suspensions, microcapsules, solid polymeric supports and fibrous structures.

46. The heart valve according to claim 46, wherein said coating comprises a bioresorbable component.

47. The heart valve according to claim 46, wherein the bioresorbable component is insoluble in water.

48. The heart valve according to claim 46, wherein said bioresorbable component is hydrophobic.

49. The heart valve according to claim 46, wherein said bioresorbable component is hydrolytically and/or enzymatically cleavable.

50. The heart valve according to claim 49, wherein said bioresorbable component is selected from poly(esters), poly(hydroxy acids), poly(lactones), poly(amides), poly(ester-amides), poly (amino acids), poly(anhydrides), poly(orthoesters), poly(carbonates), poly(phosphazines), poly(phosphoesters), poly(alkylene oxides)poly(thioesters), polysaccharides, proteins and mixtures thereof.

51. The heart valve according to claim 50, wherein said bioresorbable component is a poly(hydroxy) acid.

52. The heart valve according to claim 51, wherein said poly(hydroxy) acid is formed from a material selected from poly(lactic) acid, poly(glycolic) acid, poly(caproic) acid, poly(butyric) acid, poly(valeric) acid and copolymers and mixtures thereof.

53. The heart valve according to claim 46, wherein said bioresorbable component forms an excretable and/or metabolizable fragment.

54. The heart valve according to claim 45, wherein said gel is a thermoreversible gel.

55. The heart valve according to claim 54, wherein said gel comprises a member selected from pluronics, fibrin sealants, albumin, collagen, gelatin, hydroxypropylmethylcellulose, polyethylene oxide, hyalouronic acid, polysaccharides and combinations thereof.

56. The heart valve according to claim **45**, wherein said gel comprises a member selected from polyurethane hydrogels and polyurethane-urea hydrogels.

57. The heart valve according to claim **1**, comprising a first population of bioactive material having a first release rate from said heart valve, and a second bioactive material having a second release rate from said heart valve.

58. The heart valve according to claim **57**, wherein said first bioactive material and said second bioactive material are the same material.

59. The heart valve according to claim **57**, wherein said first bioactive material and said second bioactive material are different materials.

60. The heart valve according to claim **57**, wherein said first bioactive material is encapsulated in a microcapsule and said second bioactive material is admixed in a coating comprising said microcapsule, said coating covering at least a portion of a component that is a member selected from said sewing ring, said housing component, said valve component and combinations thereof.

61. A method for preventing or reducing tissue overgrowth of a prosthetic heart valve following the implantation of said heart valve into a host, said method comprising:

prior to said implantation, incorporating into a component of said heart valve a biologically active agent in an amount sufficient to prevent or retard tissue overgrowth.

62. A method of treating a patient requiring heart valve replacement, said method comprising:

replacing an existing valve with a prosthetic heart valve comprising a biologically active agent in an amount sufficient to prevent or retard tissue overgrowth.